

# ON THE PROTUBERANCES PRESENT ON THE LATERAL OVIDUCTS OF POULTRY LICE, *LIPEURUS LAWRENSIS TROPICALIS* PETERS (PHTHIRAPTERA: ISCHNOCERA)<sup>1</sup>

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**ABSTRACT:** The protuberances present on the lateral oviduct of *Lipeurus lawrensis tropicalis* contain 4-6 large glandular cells which are secretory in function as the accessory glands are absent.

The morphology of lateral oviducts of some of the mallophagan species has been described by Snodgrass (1899), Strindberg (1916 a & b, 1918 & 1919) and Blagoveshtchensky (1959). In general, the lateral oviducts are simple tubes in Mallophaga except in *Goniodes dissimilis* and *Cuclotogaster heterographus* where protuberances are reported to be present on the outer wall of oviducts (Blagoveshtchensky, 1959).

While dealing with the reproductive organs of *Lipeurus lawrensis tropicalis* it is found that the lateral oviducts of these lice have several protuberances throughout their outer wall thus giving a rough appearance to the lateral oviducts. Histologically these protuberances are hollow out-growths (out pockets) formed by the evagination of basement membrane (fig. 1). The muscular coat at this place is either absent altogether or very feebly developed. Each outpocket contains a group of 4-6 large, oval glandular cells occupying the evaginated area (fig. 1). Each cell contains fuchsinophilic cytoplasm and a round to oval nucleus with a centrally placed nucleolus. While the epithelial cells of the lateral oviducts are tall, columnar and are compactly arranged, each contains a dense cytoplasm, and is surrounded externally by muscular sheath formed by circular muscle fibres.

Though the presence of such protuberances is reported in *G. dissimilis* and *C. heterographus* by Blagoveshtchensky (1959), in the absence of any information on its histology, any function of these could not be assigned by him. In *L. lawrensis tropicalis* it is noticed that the lumen of the lateral oviduct is filled with a kind of secretion (fig. 1) which is lightly eosinophilic in nature. This shows that these cells perform the function of secretion in the absence of accessory glands in this species.

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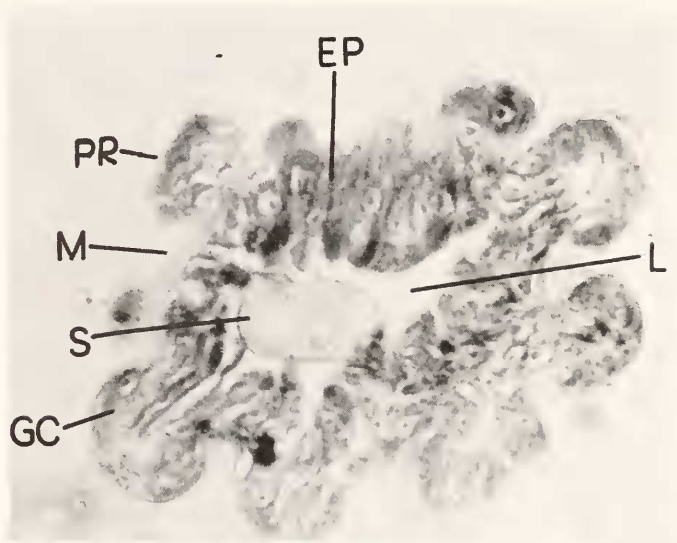


Fig. 1. Transverse section of the lateral oviduct of *Lipeurus lawrensis tropicalis*. x 630. EP — Epithelium of lateral oviduct, GC-Glandular cells present in the outpockets, L-Lumen of lateral oviduct, M-Musculature, PR-Protuberance, S-Secretion.

#### REFERENCES

- Blagoveshtchensky, D.I. 1959. Nasekomyje puchoedy. Fauna SSSR, Moskva — Leningrad, 1 (1) : 1-203.
- Snodgrass, R.E. 1899. The anatomy of Mallophaga. Occ. Pap. Calif. Acad. Sci., 6 : 145-224.
- Strindberg, H. 1916a. Zur Entwicklungsgeschichte and Anatomie der Mallophagen. Z. wiss. Zool., 115 : 382-459.
- Strindberg, H. 1916b. Studien uber die ectodermalen Teile der Geschlechtsorgane einiger Mallophagengattungen. Zool. Anz., 48 : 84-87.
- Strindberg, H. 1918. Typstudien uber die Geschlechtsorgane einiger Mallophagengattungen. Z. wiss. Zool., 117 : 591-653.
- Strindberg, H. 1919. Die Geschlechtsorgane von *Ornithobius bucephalus* Gieb. und *Goniodes falcicornis* N. Zool. Anz., 50 : 219-235.